

<b>SANYO</b>	No. 3328	<b>2SC4457</b>
		NPN Triple Diffused Planar Silicon Transistor

**Switching Regulator Applications**

**Features**

- High breakdown voltage, high reliability
- Fast switching speed
- Wide ASO
- Adoption of MBIT process
- Micaless package facilitating mounting

**Absolute Maximum Ratings at Ta = 25°C**

Collector-to-Base Voltage	$V_{CBO}$		800	V	unit
Collector-to-Emitter Voltage	$V_{CEO}$		500	V	
Emitter-to-Base Voltage	$V_{EBO}$		7	V	
Collector Current	$I_C$		4	A	
Peak Collector Current	$i_{cp}$	$PW \leq 300 \mu s, \text{duty cycle} \leq 10\%$	8	A	
Base Current	$I_B$		1.5	A	
Collector Dissipation	$P_C$		3	W	
		$T_c = 25^\circ C$	40	W	
Junction Temperature	$T_j$		150	°C	
Storage Temperature	$T_{stg}$		-55 to +150	°C	

**Electrical Characteristics at Ta = 25°C**

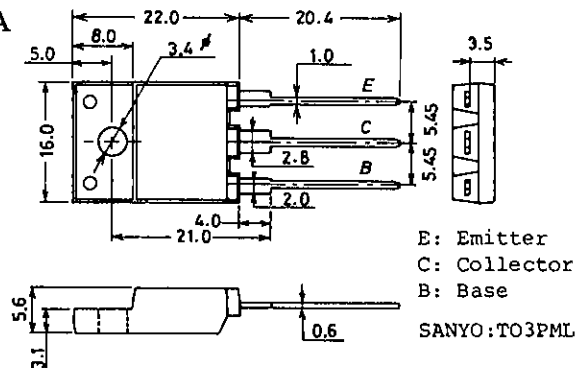
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 500V, I_E = 0$			10	μA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 0.3A$	15*		50*	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 1.5A$	8			
Gain-Bandwidth Product	$f_T$	$V_{CE} = 10V, I_C = 0.3A$		18		MHz
Output Capacitance	$c_{ob}$	$V_{CB} = 10V, f = 1MHz$		50		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	800			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 5mA, R_{BE} = \infty$	500			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C = 1.5A, I_{B1} = -I_{B2} = 0.6A, L = 1mH, \text{clamped}$	500			V

Continued on next page.

\* : For the  $h_{FE(1)}$  of the 2SC4457, specify two ranks or more in principle.

15 L 30	20 M 40	30 N 50
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**Package Dimensions 2039A**  
(unit: mm)



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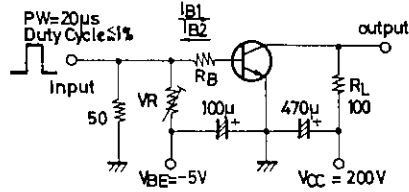
Turn-ON time  
Storage Time  
Fall Time

$t_{on}$   
 $t_{stg}$   
 $t_f$

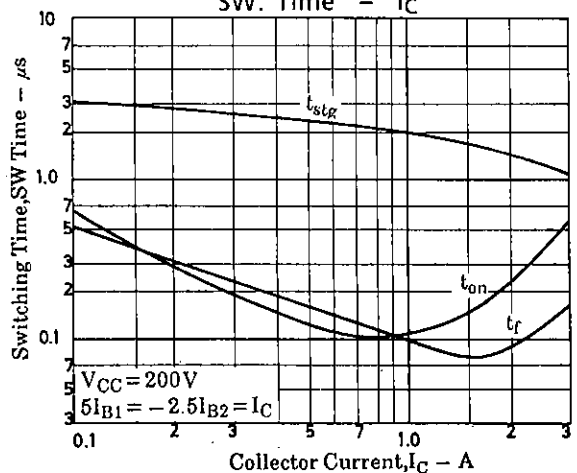
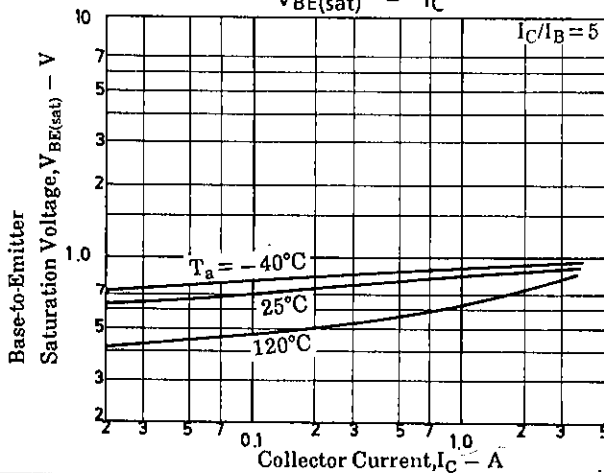
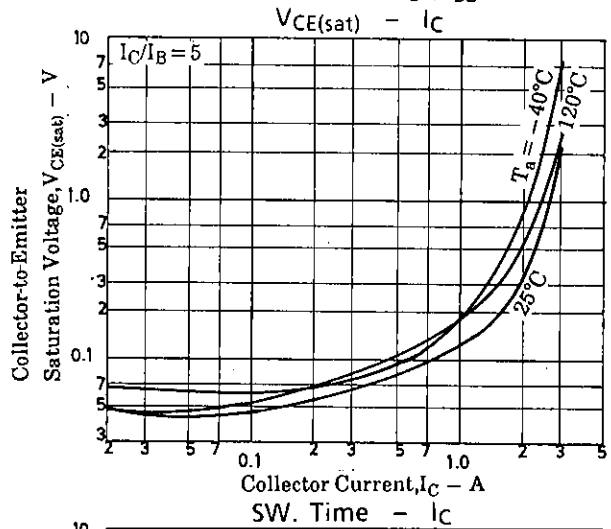
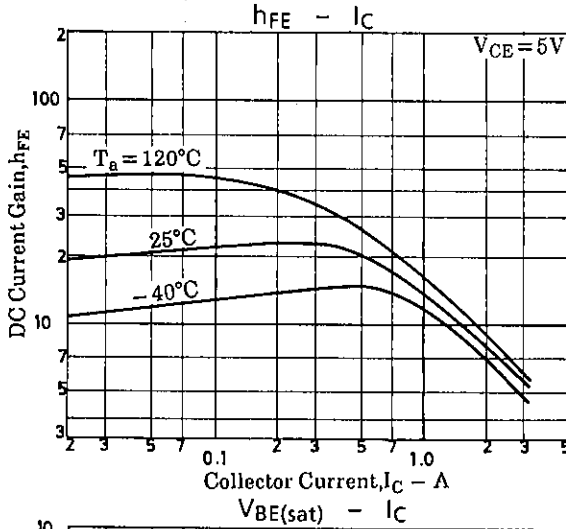
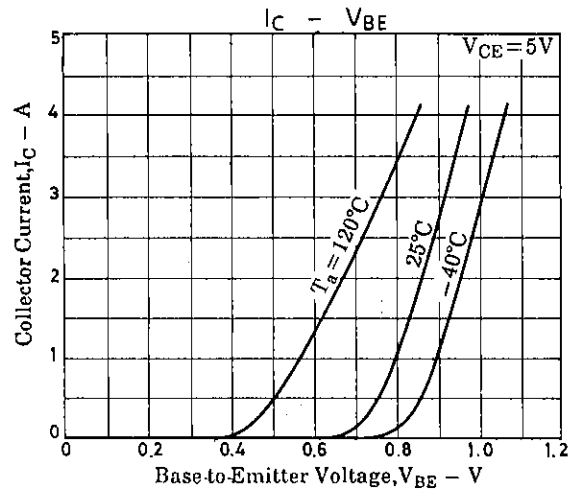
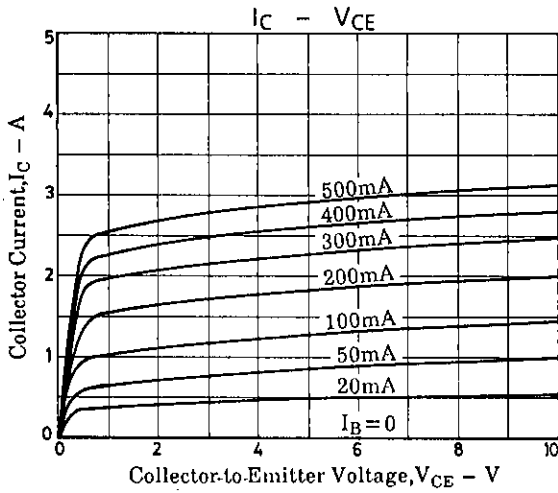
$V_{CC} = 200V,$   
 $5I_{B1} = -2.5I_{B2} = I_C = 2A,$   
 $R_L = 100\Omega$

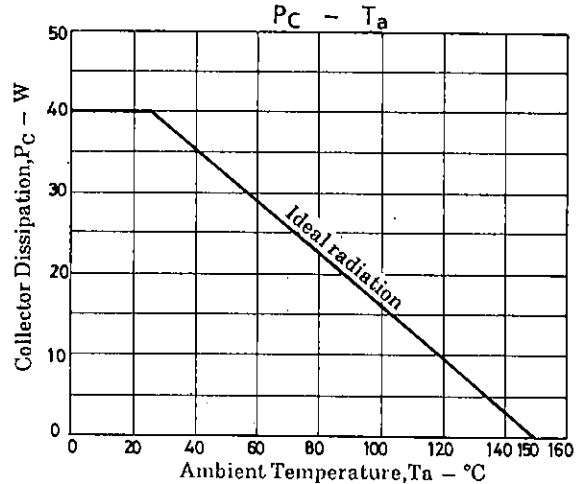
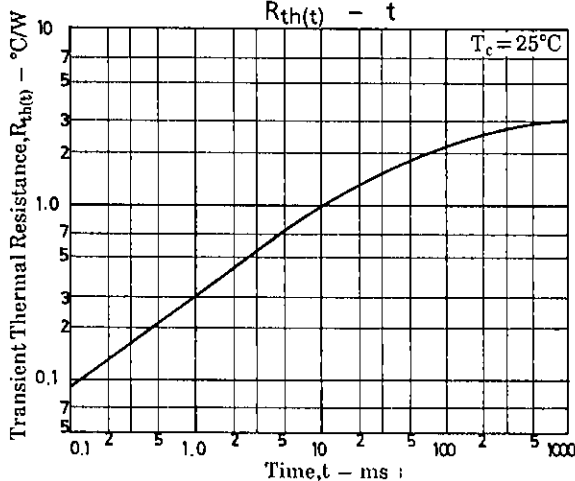
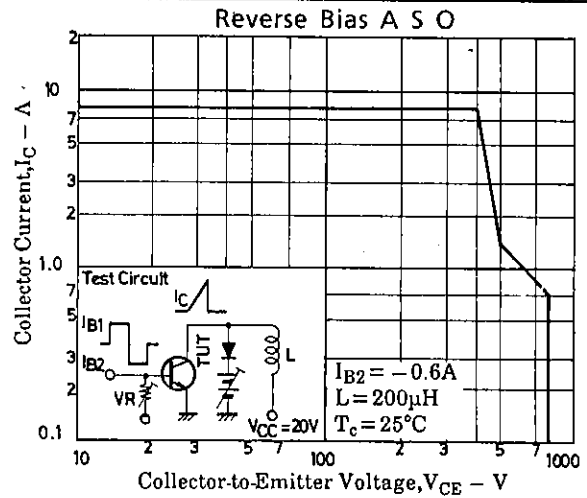
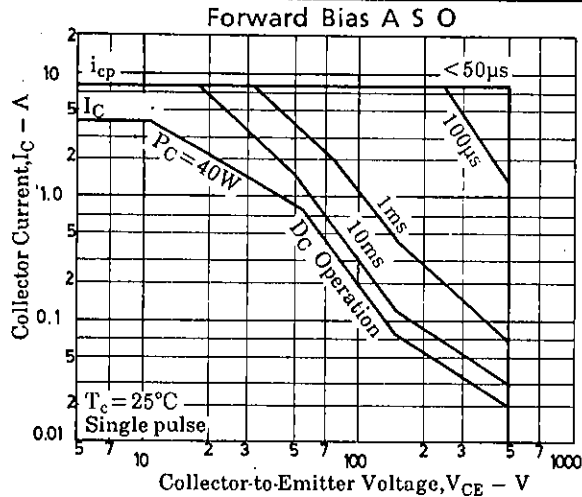
min	typ	max	unit
		0.5	$\mu s$
		3.0	$\mu s$
		0.3	$\mu s$

Switching Time Test Circuit



Unit (resistance:  $\Omega$ , capacitance: F)





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